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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,763	12/19/2000	Uwe Hansmann	DE919990078	5393
46369	7590	09/23/2004	EXAMINER	
HESLIN ROTHENBERG FARLEY & MESITI P.C.			KANG, INSUN	
5 COLUMBIA CIRCLE			ART UNIT	PAPER NUMBER
ALBANY, NY 12203			2124	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,763

Applicant(s)

HANSMANN ET AL.

Examiner

Insun Kang

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/7/2004, 2/16/2004, and 1/26/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed 6/7/2004, 2/16/2004, and 1/26/2004.
2. As per applicant's request, claims 1, 3, 4, and 11 have been amended and claims 13-16 have been added. Claims 1-16 are pending in the application.

Specification

3. The objection to the abstract has been withdrawn due to the amendment to the Specification.

Claim Rejections - 35 USC § 112

4. The rejection to claim 11 has been withdrawn due to the amendment to the claim.
5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the steps of accessing, by the apparatus with a limited Java Virtual Machine, a full Java Virtual Machine residing at a computing unit. As the full JVM is not supported on the Java Card due to limited memory resources and the claim recites that the Java Card is capable of accessing a full JVM by the present invention, claim 16 fails to interrelate essential elements (steps) of the invention (to access a full JVM by a Java card) as defined by applicant(s) in the specification as necessary to practice the invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 5-7, 9, 11, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilkinson et al. (U.S. Patent 6,308,317) hereinafter referred to as "Wilkinson."

Per claim 1:

Wilkinson discloses:

- providing a set of software components out of which a software application to be executed by an apparatus comprising processor means and memory means can be partly or entirely assembled (Fig 13, 14):
- assigning a different numeric identifier to each component of said set of software components (col. 9 lines 32-40)
- and storing each assigned numeric identifier in the corresponding component (Col.9, lines 32-40) as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, further, Wilkinson discloses that the numeric identifier comprises a bit-length of 8 or 16 bit. See Col.9, lines 29-41.

Per claim 5:

The rejection of claim 1 is incorporated, further, Wilkinson discloses providing said apparatus with a full Java Virtual Machine being able to execute every Java instruction. See Col 13, Ln 13-27. Col 1, Ln 29-34.

Per claim 6:

The rejection of claim 1 is incorporated, further, Wilkinson discloses providing said apparatus with a limited Java Virtual Machine being able to execute only certain Java instructions. See Col 13, Ln 13-27.

In regards to claim 7, Wilkinson discloses a system comprising means adapted for carrying out the steps of claim 1. See Fig, 13, 19, 20, Col 11, Ln 59 – Col12, Ln 14.

In regards to claim 9, Wilkinson discloses a computer program product loadable into memory means of a digital computer, comprising software code for performing the steps of claim 1. See Fig 14. Col 12, Ln 49-64.

Per claim 11:

Wilkinson discloses:

-processor means and memory means, in which a set of software components is stored, said software components to be partly or entirely assembled into a software application to be executed by said device, wherein each of said software components comprises a different numeric identifier, preferably comprising a bit-length of 8 or 16 bits (Fig 13, 14; col. 9 lines 32-40)

Per claim 12:

The rejection of claim 11 is incorporated, further, Wilkinson discloses

-a stored software application; and means for instantiating said software components upon request of said software application. See Fig 14 and 15, Col 11, Ln 48 – Col 12, Ln 48.

Per claim 13:

The rejection of claim 11 is incorporated, further, Wilkinson discloses that the device comprises at least one of a chip card, a set-top box and a Personal Digital Assistant (Fig 13, 14; col. 9 lines 32-40) as claimed.

Per claim 14:

The rejection of claim 1 is incorporated, further, Wilkinson discloses that said set of software components is capable of at least one of being, subsequent to being partly or

entirely assembled into the software application, updated by updating at least one software component of the set of software components and supplemented by adding at least one software component to the set of software components (See Col. 10 lines 6-13; Col 13, Ln 13-27. Col 1, Ln 29-34) as claimed.

Per claim 15, it is the device version of claim 14, respectively, and is rejected for the same reasons set forth in connection with the rejection of claim 14 above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 4, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson et al. (U.S. Patent 6,308,317) hereinafter referred to as "Wilkinson" in view of Sherer et al. (U.S. Patent 5,459,854).

In regards to claim 3, Wilkinson discloses assigning a different numeric identifier to each component of said set of software and storing each assigned numeric identifier in the corresponding component but does not disclose loading two or more of said

components together in the same step into said memory means of said apparatus, and storing said components therein.

Sherer et al. teach that loading two or more components simultaneously into said memory in an analogous art optimizes memory usage. Any unneeded portions of memory are freed for use by other components and the needed portions are relocated into a contiguous memory space to minimize the memory usage (See Col 3, lines 7-21, Col 5-6). Therefore, It would have been obvious to one having ordinary skill in the art at the time of the invention was made to further modify Wilkinson's method comprising assigning a different numeric identifier to each component of a set of software components and storing each assigned numeric identifier in the corresponding component to include Sherer et al.'s memory optimization strategy. The modification would have been obvious because one having ordinary skill in the art would have been motivated to include the method of loading two or more components together into memory to optimize memory usage and fast code execution (See Col 3, lines 7-21, Col 5-6).

In regards to claim 4, Wilkinson further teaches loading a software application into said apparatus and storing said software application in said memory means (Fig. 12); providing means for instantiating said loaded components upon request of said software application (Fig. 14); loading said means for instantiating into said apparatus; and storing said means for instantiating in said memory means (Fig. 14). See Col 11-12, Ln 59 – Col12, Ln 14.

In regards to claim 8, Wilkinson further discloses a system comprising means adapted for carrying out the steps of claim 4. See Fig, 13, 19, 20, Col 11, Ln 59 – Col12, Ln 14.

In regards to claim 10, Wilkinson further discloses a computer program product loadable into memory means of a digital computer, comprising software code for performing the steps of claim 4. See Fig 14. Col 12, Ln 49-64.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson et al. (U.S. Patent 6,308,317) hereinafter referred to as “Wilkinson” in view of Merk et al. (U.S. Patent 6,754,886) hereinafter referred to as “Merk.”

Per claim 16:

Wilkinson discloses providing said apparatus with a limited Java Virtual Machine being able to execute only a subset of Java instructions (col. 9 lines 40-61). However, Wilkinson does not explicitly teach accessing, by said apparatus, a full Java Virtual Machine residing at a computing unit coupled to said apparatus, said accessing allowing said apparatus to execute additional Java instructions. Merk teaches that it was known in the art of software development, at the time the applicant’s invention was made, to provide “an object-oriented programming access to SmartCards (col. 3 lines 1-5; “business objects like JavaBeans can be stored in an integral form including the attributes and the methods of an object contiguously and in one single step...It is thus possible to extend the use of Java Bean items in order to apply such item technology on

specific methods for handling such objects for programming purposes, like storing and reading the objects... Thus, SmartCard application data becomes more transparent, handling of such data becomes simpler and more flexible as all data types of the applied object-oriented programming language are provided... Thus the basic principle of the present invention closes a gap between modern programming techniques and their applicability on devices having a reduced support of high-level programming concept such as SmartCards,” col. 3 lines 35-67 and col. 4 lines 1-10).” Therefore, It would have been obvious to one having ordinary skill in the art at the time of the invention was made to further modify Wilkinson’s system to incorporate the teachings of Merk. The modification would have been obvious because one having ordinary skill in the art would have been motivated to “extend the use of Java Bean items in order to apply such item technology on specific methods for handling such objects for programming purposes, like storing and reading the object (col. 3 lines 35-67 and col. 4 lines 1-10) and to close “a gap between modern programming techniques and their applicability on devices having a reduced support of high-level programming concept such as SmartCards (col. 3 lines 35-67 and col. 4 lines 1-10)” as taught by Merk.

Response to Arguments

12. Applicant's arguments filed 6/7/2004, 2/16/2004, and 1/26/2004 have been fully considered but they are not persuasive.

Per claims 1 and 11:

The applicant states that:

1) There is no discussion in Wilkinson of applicants' claimed feature of assigning a different numeric identifier to each component of the set of software components. Wilkinson does describe ID numbers at col. 9, lines 29-41. However, this section describes ID numbers associated with string patterns (not components) in an aggregate class constant pool. This association with strings is clear at col. 9, lines 29-33, which states, "This compaction is achieved by mapping all the string found in the class file constant pool into integers . . . these integers are referred to as 1Ds." Since an ID number in Wilkinson is associated with a pattern instead of a component, applicants respectfully submit that this ID number does not teach or suggest assigning a different numeric identifier to each component of the set of software components, as recited in the claims presented herewith.... Thus, applicants respectfully submit the generation of these ID numbers in Wilkinson do not teach or suggest the assigning of a different numeric identifier to each component of a set of software components, as claimed by the present invention.

In response to applicant's argument that the reference fails to show assigning a different numeric identifier to each component of the set of software components, it is noted that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As such, the claims are read with the broadest reasonable interpretation in mind (Note MPEP 2111). The examiner interprets a software component as a smallest constituent unit or entity that makes up software being a composite entity (a set of software components, program, or application) in view of Webster's Online Dictionary (see the definition of component and software

component). According to the definition, “the word has an emerging meaning generalizing the idea of a software pattern, software object, software framework, and software architecture. A *software component* can be any of these.” Wilkinson teaches that all “objects, classes, fields, methods referenced in a Java class file...are identified by using strings in the constant pool...of the class file. The card class file converter...compacts the constant pool...found in the java class file...into an optimized version...by mapping all the strings found in the class file constant pool...into integers...These **integers** are also referred to as IDs (col. 9 lines 20-41).” The applicant argues that these ID numbers are “associated with string patterns (not components) in an aggregate class constant pool” and are not to identify software components. However, the applicant mischaracterized the portion of Wilkinson’s teachings. Wilkinson clearly recites, “**Each ID uniquely identifies a particular object, class, field or method in the application (col. 9 lines 30-41).**” Therefore, the card class file converter...replaces the strings in the Java class file constant pool with its corresponding unique ID (col. 9 lines 32-41).” The Webster’s online dictionary defines, “components are basic functional units of a program which allow for rapid development” and a “standard way to implement a component is as a class object (**object-oriented** programming),” and Wilkinson discloses each integer ID that “uniquely identifies a particular object, class...in the application.” In addition, the specification of the instant application also confirms objects and interfaces being a set of software components in paragraph 0052. Therefore, Wilkinson discloses the instant limitations in claims 1 and 11. Accordingly, in view of the broadest reasonable interpretation above, the rejection

of claims 1 and 11 is considered proper and maintained.

2) Further, the Office Action supported the rejection of the independent claims by citing

FIGs. 13 and 14. FIG. 13 depicts card applications in communication with an application in a terminal. The discussion of FIG. 13 at col. 12, lines 15-47 describes this communication, but does not describe or suggest the assigning of a numeric identifier to a software component. Further, FIG. 14 depicts the memory organization for ROM, RAM and EEPROM. The storage of the card applications in this memory is depicted in FIG. 14 and described at col. 12, line 49 - col. 13, line 44. This discussion of the storage of a card application in Wilkinson does not teach or suggest the missing of a different numeric identifier to each component of a set of software components, as claimed by the present invention.

In response to the applicant's argument, it is noted that the examiner recited Fig 13 and 14 as depicting the memory organization of an apparatus comprising processor means and memory means can be partly or entirely assembled. Therefore, the argument that these figures do not support the "missing of a different numeric identifier to each component of a set of software components" is considered moot.

Per claims 2-10 and 12-13:

The applicant states that, "The dependent claims at issue are believed allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their own additional characterizations." In response to the applicant statement that the dependent claims are "believed allowable" for "their own additional

characterizations,” the examiner confirms that the applicant fails to discuss how “their own additional characterizations” are distinct from the teachings of the references, that the reasons concerning the rejections of claims are improper, and to point out disagreements with the examiner’s contentions. As has been shown above, the rejections of independent claims 1 and 11 by Wilkinson are proper and the applicant fails to discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them. Furthermore, regarding claims 3, 4, 8, and 10, the applicant fails to discuss that the reasons to combine the two references and motivations concerning the rejection of claims are improper. Accordingly, the rejections of claims 2-10 and 12-13 are considered proper and maintained.

Per claims 14 and 15:

The applicant states:

Wilkinson simply does not address smart card functionality at that level of granularity...Wilkinson is directed to the update of the smart card only through the addition of a new application as a whole...This addition of a new application in Wilkinson updates the smart card, which is different from updating an application. There is no teaching or suggestion of a set of software components capable of being updated and/or supplemented, let alone capable of being updated and/or supplemented subsequent to being partly or entirely assembled into a software application, as recited by the claims presented herewith. Sherer also fails to teach or suggest the recited capabilities of the set of software components as described above. Applicants respectfully submit that Sherer does not discuss Assembly of a software application from software components at all, much less address a set of software components capable of being updated and/or supplemented subsequent to being partly or entirely assembled into a software application. Therefore, it follows that Sherer does not teach or suggest the above-noted capabilities of the

set of software components, as claimed by the present invention.

In response to applicant's argument that the references fail to show the capabilities of a set of software components, the examiner points out that Wilkinson discloses that a set of software components is **capable of at least one of being**, subsequent to being partly or entirely assembled into the software application, updated by updating at least one software component of the set of software components and supplemented by adding at least one software component to the set of software components (See Fig 13 and 14; Col. 10 lines 6-13; Col 13, Ln 13-27; Col 1, Ln 29-34) as claimed.

In addition, it is noted that the claim recites a set of software components as being **capable** of performing the functionality without actual performance. It only recites the capabilities of the set of software components. Therefore, Wilkinson discloses the limitations in the claims.

Per claim 16:

Applicant's arguments with respect to claim 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 703-305-6465. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 703-305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business

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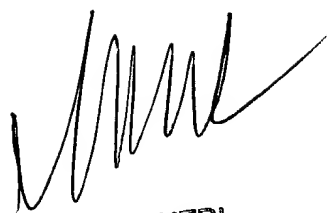
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Center (EBC) at 866-217-9197 (toll-free).

IK

9/13/2004

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

ANIL KHATRI
PRIMARY EXAMINER